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Myobiid Mites (Acarina, Myobiidae) Parasitic on Bats in Japan

VI. Genus *Pteracarus* Jameson et Chow, 1952 (Part 1)

With 2 Text-figures

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ABSTRACT *Pteracarus submedianus* Dusbábek new to Japan was recorded, and *Pteracarus faini* sp. nov. was described. The new species is remarkably different from the other members of the genus *Pteracarus* Jameson et Chow in lacking terminal claws on the leg I.

Mites of the genus *Pteracarus* Jameson et Chow are specific parasites of bats of the family Vespertilionidae. Twenty-one species and subspecies have so far been relegated to the genus, and Dusbábek (1973) presented 7 anonymous species. It must be noted that the host specificity of the known species or subspecies differs subtly from that observed in cases of other bat myobiid genera. Further investigations will bring forth far more species of the genus, and the mode of the host preference will be clarified by analyses of multiple examples. The genus *Pteracarus* Jameson et Chow is considered to be one of the promising genera that serve as a measure for interpretation of the phylogenetic relationships among host bats.

Each of some 20 species of bats of the family Vespertilionidae distributed in Japan (Imaizumi, 1970) is expected to be associated with some *Pteracarus* mites. The present author has taken several kinds of mites from Japanese bats, and finished identification of only the two species, including a new species remarkably different from all the known species as described below.

Genus *Pteracarus* Jameson et Chow, 1952

Detailed characteristics of the genus were presented in the comprehensive study of Dusbábek (1973). The known species bear a pair of terminal claws on leg I, but this characteristic seems not to be a *sine qua non*. Legs I are symmetrical in all the developmental stages.

1. *Pteracarus submedianus* Dusbábek, 1963

Material examined. 3 ♂♂, ex *Plecotus auritus sacrimontis* (Allen), Shimashima-dani, Nagano Prefecture, Japan, 25 March 1977; 1 ♂, 1 ♀ from the same host, Hokkaido, Japan, in summer, 1963 (Coll. by Dr. Maeda).

2. *Pteracarus faini* sp. nov.

(Figs. 1–2)

Male (Fig. 1). Setae *sc i* situated distinctly anterior to *sc e*. Setae *l*₃ usually short and notched apically, but, on a single specimen, thickened and setiform. Genital opening at level of *sc i*; genital plate as in Fig. 1 C. Leg I lacking terminal claws. Dorsal seta on tibia IV slightly thickened basally. Spines on tibiae III and IV slender and notched apically.

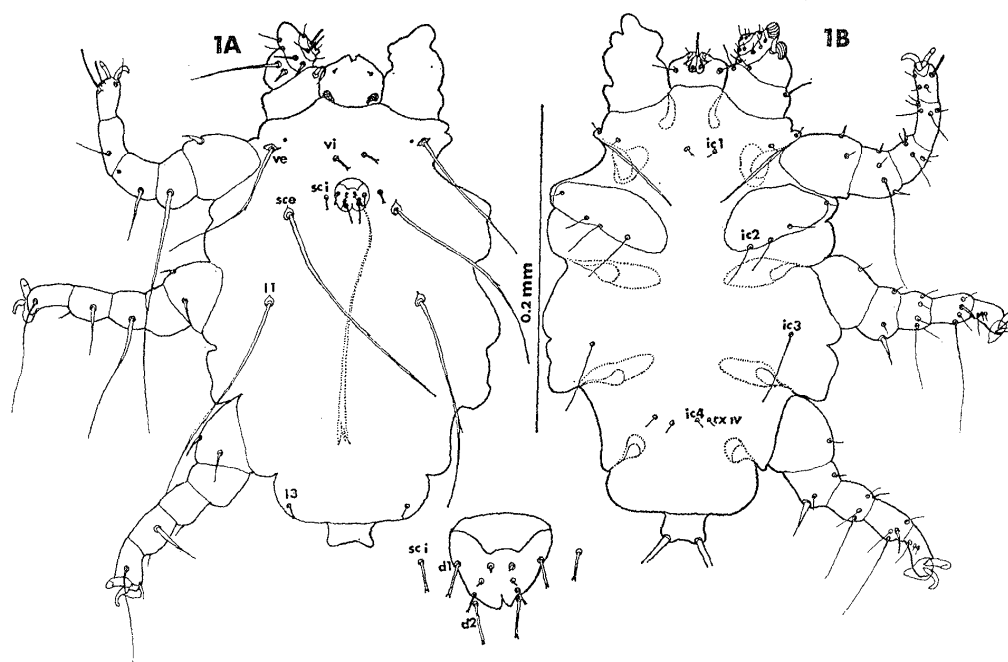


Fig. 1. *Pteracarus faini* sp. nov., male; A, dorsal view; B, ventral view; C, genital region.

Measurements in microns (holotype and 5 paratypes in parentheses): Body (=gnathosoma+idiosoma) 310 (290–315) long by 192 (180–192) wide; *ve* 75 (70–83); *vi* 7 (7–8); *sc e* 120 (110–130); *sc i* 8 (7–10); *d*₁ 8 (5–8); *d*₂ 10 (10–12); *l*₁ 125 (123–140); *l*₃ 8 (7–8); *ic*₄ 7 (7–7); *cx* IV 7 (6–7); spine on tibia III 13 (10–13); spine on tibia IV 17 (13–17); penis 138 (130–140).

Female (Fig. 2). Idiosoma subcircular. Setae *sc i* almost on or very slightly posterior to level of *sc e*. Setae *d*₁, *d*₂ and *d*₃ lacking; *d*₄, *d*₅, *l*₃ and *l*₄ minute. Ventral setae *cx* IV, *ic*₄ and *g*₁ well developed and setiform, and gaining length in that order. Leg I as in male. Dorsal seta on tibia IV thickened, short and peg-like, but not

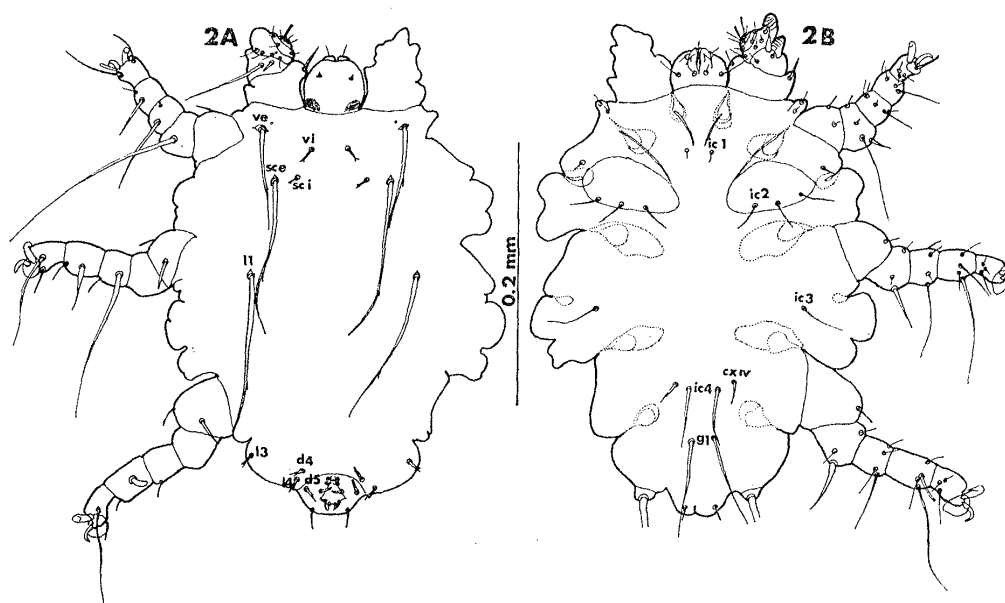


Fig. 2. *Pteracarus faini* sp. nov., female; A, dorsal view; B, ventral view.

striated. Ventral spines on tibiae III and IV slender.

Measurements in microns (allotype and paratype): Body 355–353 long by 276–270 wide; *ve* 80–80; *vi* 10–10; *sc e* 113–115; *sc i* 9–8; *l*₁ 113–118; *ic*₄ 48–40; *cx* IV 31–22; *g*₁ 70–75; ventral spines on tibiae III and IV 14–13 and 18–19, respectively.

Material examined. Holotype male, allotype female, 5 paratype males and a male, Shôjô-dô Cave, Kashiwazaki, Niigata Prefecture, Japan, 7 August 1976; a paratype female, Obirano-dô Cave, Miyazaki Prefecture, Japan, 9 April 1972 (coll. by Mr. Irie); a male, Fûshin-dô Cave, Kumamoto Prefecture, Japan, 18 June 1967 (coll. by Mr. Irie); a male, Kumaso-ana Cave, Kagoshima Prefecture, Japan, 3 May 1975 (coll. by Mr. Irie). The host of all the above specimens was the bat so far identified as *Miniopterus schreibersii fuliginosus* (Hodgson).

The holotype and allotype are deposited in the collection of the National Science Museum (Nat. Hist.), Tokyo (NSMT-Ac 9059, 9060), and the paratypes in the collection of the author.

Remarks. *Pteracarus submedianus* Dusbábek is known to parasitize the two European *Plecotus* bats, *P. auritus* Linnaeus and *P. austriacus* (Fischer). *Plecotus auritus sacrimontis* (Allen) is the third host of this mite. The two American *Plecotus* bats, on the other hand, harbour the different mite, *Pteracarus elegans* Dusbábek et Wilson (Dusbábek, 1973). These two mites are only the known members of the genus, which are associated with bats of the genus *Plecotus*.

In addition to the absence of terminal claws on the leg I, the male and female of *Pteracarus faini* sp. nov. possess remarkable characteristics; the situation of the male genital opening, well developed female ventral setae *ic*₄ and *g*₁ and a uniquely modified dorsal seta on the female tibia IV are observed only in the present new species.

The mite is named after Dr. A. Fain, a great acarologist in the world, who is much interested in the clarification of Myobiidae.

Pteracarus faini sp. nov. is quite different from *Pteracarus minutus minutus* (Radford) that infests European *Miniopterus*, *M. schreibersii* (Natterer). This indicates that Japanese and European *Miniopterus* bats are phylogenetically remote, though they are so far regarded as different from each other at the subspecies level. The same presumption based on the observation of *Calcaromyobia* mites was already presented (Uchikawa, 1976).

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